DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022328
Date Inspected: 02-Apr-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
Location: Shanghai, China

CWI Name: See Below

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:

CWI Inspector: Mr. Lv Li Qing

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Wu Hai Jun, stencil 201087 used shielded metal arc welding process to make OBG segment 14E tack weld SEG3019Y-058. This QA Inspector observed a welding current of approximately 170 amps, the base materials were preheated with a torch and Mr. Wu Hai Jun appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Bian Henggui stencil 051359 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair -1 to make repairs to OBG segment 13BE weld SEG3013A-006 and OBG segment 13CE weld SEG3014A-001. ZPMC QC informed this QA Inspector that weld repair document B-WR-20542 documents both of these welds that had been ultrasonically rejected. This QA Inspector observed a welding current of approximately 170 amps, the base materials were preheated with electrical

heaters and Mr. Bian Henggui appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Changfa, stencil 058102 used shielded metal arc welding procedure specification WPS-B-P-2214-T-U4B-FCM-1 to make OBG segment 14E weld SEG3019U-001. This QA Inspector observed a welding current of approximately 175 amps, the base material had been preheated with electric heaters and Mr. Wang Changfa appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

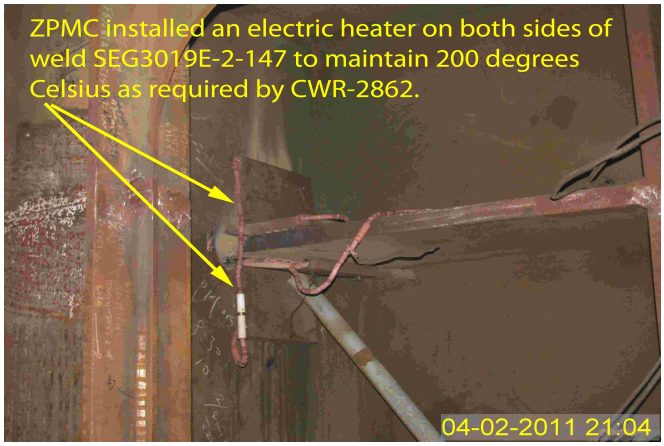
This QA Inspector observed ZPMC welder Mr. Wang Li, stencil 044772 used shielded metal arc welding procedure specification WPS-B-P-2214-T-U4B-FCM-1 to make OBG segment 14E weld SEG3019U-001. This QA Inspector observed a welding current of approximately 180 amps, the base material had been preheated with electric heaters and Mr. Wang Li appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

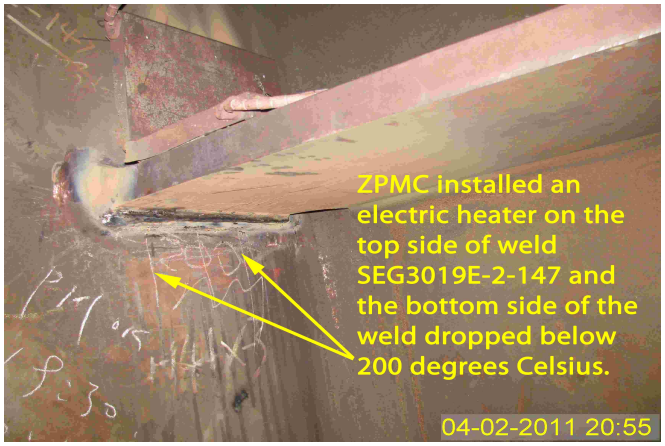
This QA Inspector observed ZPMC welder Mr. Du Hengyou, stencil 067571 used shielded metal arc welding procedure WPS-B-P-2214-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-067. This QA Inspector observed a welding current of approximately 175 amps the base materials were preheated with electrical heaters and Mr. Du Hengyou appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair -1 to make critical weld repairs to OBG segment 14E weld SEG3019D-1-323. ZPMC QC informed this QA Inspector that weld repair document B-CWR-2677 documents this weld had been ultrasonically rejected. This QA Inspector observed a welding current of approximately 170 amps, the base materials were preheated with electrical heaters to a minimum of 200 degrees Celsius prior to welding and Mr. Yunfeng appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair -1 to make critical weld repairs to OBG segment 14E weld SEG3019E-2-147. ZPMC QC informed this QA Inspector that weld repair document B-CWR-2862 documents this weld had been ultrasonically rejected. The CWR requires that this weld should be post weld heat treated by maintaining a 200 degree Celsius temperature for a minimum of two hours. Approximately twenty minutes after completion of the weld this QA Inspector observed ZPMC had placed a single electric heating element on the top side of the welded plate and that there was no heating element below the weld repair. This QA Inspector used a 200 degree Celsius temperature crayon on the base material directly below the weld repair and observed the base material temperature was below 200 degrees Celsius. This QA Inspector informed ZPMC CWI Mr. Lv Li Qing that the steel below the weld repair was below the minimum post weld heat temperature and Mr. Lv Li Qing had an electric heater installed on the bottom side of the plate and approximately 10 minutes later this area appeared to be a minimum of 200 degrees Celsius. See the photograph below for additional information. Later in the shift Mr. Wang Zhengbin used WPS-345-SMAW-3G(3F)-FCM-Repair -1 to make weld repairs to OBG segment 14E weld SEG3019M-254. ZPMC QC informed this QA Inspector that weld repair document B-WR-20359 documents this weld had been ultrasonically rejected. This QA Inspector observed a welding current of approximately 160 amps,

the base materials were preheated with a torch and Mr. Wang Zhengbin appeared to be certified to make these welds. Following installation of an electric heater on weld SEG3019E-2-147, items observed on this date appeared to generally comply with applicable contract documents.





Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Riley,Ken	QA Reviewer